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EXAMINER

ART UNIT | PAPER NUMBER

2603 | 6

26M1/0906

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DATE MAILED: 09/06/94

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☐ This application has been examined ☒ Responsive to communication filed on 5/31/94 ☒ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), ___ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☐ Notice of References Cited by Examiner, PTO-892.
2. ☐ Notice of Draftsman's Patent Drawing Review, PTO-948.
3. ☐ Notice of Art Cited by Applicant, PTO-1449.
4. ☐ Notice of Informal Patent Application, PTO-152.
5. ☐ Information on How to Effect Drawing Changes, PTO-1474.
6. ☐ _____

Part II SUMMARY OF ACTION

1. ☒ Claims 1-7 are pending in the application.
   Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-7 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____. has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☒ The proposed drawing correction, filed 5/31/94, has been ☒ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application apppears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

Part III DETAILED ACTION

Drawings

1. The drawings are objected to under 37 C.F.R. § 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "input ports" and the "output ports" (plural) of each data switching plane, as in claim 1, must be shown or the feature cancelled from the claim. No new matter should be entered.

2. Applicant is required to submit a proposed drawing correction in response to this Office Action. Any proposal by the applicant for amendment of the drawings to cure defects must consist of two parts:

a) A *separate* letter to the Draftsman in accordance with MPEP § 608.02(r);

b) A print or pen-and-ink sketch showing changes in *red ink* in accordance with MPEP § 608.02(v).

IMPORTANT NOTE: The filing of new formal drawings to correct the noted defect may be deferred until the application is allowed by the examiner, but the print or pen-and-ink sketch with proposed corrections shown in red ink is required in response to this Office Action, and *may not be deferred*.

Specification

3. The disclosure is objected to because of the following informalities: it is not clear what is meant by "the capacity would be less that CLOS at these rates", on page 4, line 6 (emphasis added). Appropriate correction is required.

4. The incorporation of essential material by reference to a foreign application or foreign patent or to a publication inserted in the specification is improper. Applicant is required to amend the disclosure to include the material incorporated by reference. The amendment must be accompanied by an affidavit or declaration executed by the applicant, or applicant's attorney or agent, stating that the amendatory material consists of the same material incorporated by reference in the referencing application. *In re Hawkins*, 486 F.2d 569, 179 USPQ 157; *In re Hawkins*, 486 F.2d 579, 179 USPQ 163; *In re Hawkins*, 486 F.2d 577, 179 USPQ 167.

5. The attempt to incorporate subject matter into this application by reference to the PCT Applications Numbers: WO93/03565, WO93/03566, WO93/03567 and WO93/03577 as well as to the US Patent Applications 08/030,231, 08/030341, 08/030402 and 08/030166 is improper because they are neither US Patents not allowed US Patent applications.

6. The following is a quotation of the first paragraph of 35 U.S.C. § 112:

> *The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.*

7. The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to teach how to make and/or use the invention, i.e. failing to provide an enabling disclosure.

The specification provides no description of the detailed structure of the Input Switch, the Output Switch, the Rotators, the Central Buffer and the Central Control constituting the STM of Figure 2, and the specification provides no description of how these circuits operate and how they interact; it appears that applicants relied totally on the PCT applications and US Patent applications cited above, and which were improperly incorporated by reference, to provide the detailed structure and operation of the claimed STM switch. The specification also does not describe the claimed "parallel data switching planes" and "parallel control plane".

Claim Rejections - 35 USC § 112

8. Claims 1-7 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.

9. Claims 1-7 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is not clear what is meant by "a parallel control plane"; the meaning of the term "parallel" here cannot be ascertained, i.e. parallel to what? and in which way? In claim 2, it is not clear what is meant by "the central switching unit has timeslots"because timeslots are not physical structures. In claims 2-3, it is not clear what is meant by "timeslot of the central switching unit". Claims 4-7 are rejected for having the same deficiencies found in their parent claims.

Claim Rejections - 35 USC § 103

10. Claims 1-7 (as best understood) are rejected under 35 U.S.C. § 103 as being unpatentable over Takeuchi et al. (US Patent 5233603) in view of Beshai et al. (US Patent 5168492). Takeuchi et al. discloses a packet switch -Figure 8- comprising a plurality of switch units #1 to #P (parallel data switching planes) and an address controller 238 (control plane). Each switch unit has an equal number N of input ports (inputs to S/P's 1091 to 109N) and output ports (outputs of S/P's 1171 to 117N), and a central switch unit (bus 215 and FIFO's 2171 to 217N). See column 7, line 29 through column 10, line 39. Data is switched between the inputs and outputs of the packet switch in blocks of 8 bits (in octets) as indicated in column 8, lines 21-23. The reference however does not disclose that the packet switch is an STM switch (as in claim 1) and does not disclose the rotator means

(as in claims 2-7). Beshai et al., in the same field of endeavor, discloses an ATM switch as shown in Figure 2, and suggests in column 6, lines 31-49, that the switch can be readily adapted to perform STM switching (see also Figure 5). Given that ATM switching is not well suited to handle synchronous traffic (delay sensitive traffic such as voice and video), it would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the ATM switch of Takeuchi et el. to STM switching, as suggested by Beshai et al., in order to accommodate synchronous traffic. Beshai et al. also discloses rotators 20 and 20 connected to the inputs and outputs of a switch 18, as shown in Figure 2 (packet buffers 18 function as space switch; see column 4, lines 1-2). it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Takeuchi's switch so as to use rotators, as taught by Beshai et al., since Beshai et al. states in the abstract that using rotators has the advantages of reducing the switch hardware complexity and (in the ATM mode) eliminating arbitration. It would also have been obvious to one of ordinary skill in the art at the time the invention was made to use multistage rotators, since Beshai et al. further discloses that a multistage arrangement of rotators reduces the number of rotators required compared to that required for a square rotator arrangement (see column 7, lines 15-20).

Response to Applicants' arguments

11. Applicant's arguments filed 5/31/94 have been fully considered but they are not deemed to be persuasive.

In the Remarks, page 3, applicants argue that by stating that ATM switching is preferable to STM switching, Takeuchi in essence rejects STM switching. Applicant further argue that Takeuchi also rejects ATM switching by describing a packet switch. Examiner believes that applicants, by these arguments are simply attempting to confuse the issues. STM, ATM, and packet switches are well known in the art, STM being the oldest for of switching; applicant cannot claim that they invented STM switching. What is at issue is the claimed structure of an STM switch, i.e., the parallel switch unit, the control unit the rotators, etc... One of ordinary skill in the art could have certainly arrived to this structure in light of the teaching of Takeuchi and Beshai et al. One of ordinary skill in the art would certainly appreciate that this structure could be applied to an STM switch as well as to an ATM switch or packet switch. On page of the Remarks, applicants in essence admit that STM is not a novel invention since Beshai system addresses both ATM and STM switching. It should also be noted that even Applicants disclose, on page 4 of the specification, lines 18-32, that the structure of the claimed STM switch is similar to that of a related ATM switch. Applicants went on arguing that Takeuchi and Beshai switches are so different that it would not have been clear to one

skilled in the art how to use the architecture of Beshai in Takeuchi. Examiner respectfully disagrees with Applicants' opinion; the test for obviousness is not whether the features of one reference may be bodily incorporated into the other to produce the claimed subject matter but simply what the combination of references makes obvious to one of ordinary skill in the pertinent art.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to H. Kizou whose telephone number is (703) 305-4744.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.

H. Kizou
Patent Examiner
G.A.U. 2603

September 4, 1994

HK

ALPUS HSU
PRIMARY EXAMINER
GROUP 2600